

REMARKS/ARGUMENTS

Claims 1, 7, 8, 12-14, 16-21 and 23 are pending. By this Amendment, claims 1, 7 and 21 are amended. Support for the amendments to claims 1, 7 and 21 can be found, for example, in the present specification at page 4, lines 4 to 6, and in previously presented claims 1, 7 and 21. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Rejection Under 35 U.S.C. §103

The Office Action rejects claims 1, 7, 8, 12-14, 16-21 and 23 under 35 U.S.C. §103(a) over U.S. Patent No. 6,045,896 to Boire et al. ("Boire") in view of U.S. Patent Application Publication No. US 2001/00313365 to Anderson et al. ("Anderson"). Applicants respectfully traverse the rejection.

Claim 1 recites "[a] composite product, comprising: a transparent substrate; a multilayer system comprising a functional layer and a layer C; and a cover layer formed from a single material; wherein: the multilayer system has a solar-control function or an energy-control function; the functional layer reflects at least some radiation of the solar spectrum; the layer C comprises silicon or aluminum [nitride, carbonitride, oxynitride or oxycarbonitride], or a mixture of the two; the layer C is surmounted by the cover layer; and the single material comprises at least one oxide comprising Zr and at least one other metal" (emphasis added). Claim 21 is directed to a process by which a similar structure is obtained. Boire and Anderson do not disclose or suggest such a product or such a process.

As indicated above, claims 1 and 21 each require a layer C and a cover layer formed on the layer C. In addition, the cover layer is formed of a single material including an oxide including Zr and at least one other metal.

In comparing the structure shown in FIG. 1 of Boire to the structure recited in claims 1 and 21, the Office Action appears to assert that the Ag layer 3 of Boire corresponds to the functional layer in claims 1 and 21, the Si₃N₄ layer 5a of Boire corresponds to the layer C of claims 1 and 21, and the series of five layers 5b, 6, 7, 8a and 8b (ZnO, Ag, Nb, ZnO, Si₃N₄) corresponds to the cover layer of claims 1 and 21. *See* Office Action, page 3. That is, the Office Action relies on a group of five layers in Boire as constituting the cover layer of claim 1 and 21.

It is undisputed that Boire does not disclose or suggest a cover layer including an oxide including Zr and at least one other metal. *See* Office Action, page 3. Applicants submit that Boire is further deficient in failing to disclose the structure required in claims 1 and 21. Namely, Applicants submit that one of ordinary skill in the art would not reasonably consider the five layers 5b, 6, 7, 8a and 8b of Boire (which include a functional Ag layer 6) to be a cover layer within the meaning of claims 1 and 21. Thus, one of ordinary skill in the art would not find that Boire discloses a structure including a cover layer as defined in claims 1 and 21 formed on a layer C as defined in claims 1 and 21.

Notwithstanding the foregoing, Applicants have amended claims 1 and 21 to explicitly indicate that the respective cover layers are formed of a single material. Accordingly, the cover layers of claims 1 and 21 cannot include a structure such as the five layers 5b, 6, 7, 8a and 8b of Boire. For this additional reason, Boire does not disclose or suggest each and every feature of claims 1 and 21.

Anderson does not remedy the deficiencies of Boire. The Office Action asserts that Boire discloses employing a mixed oxide including, e.g., an oxide of tantalum, and Anderson discloses that oxides of tantalum and oxides of zirconium are equivalent. *See* Office Action, page 3. Thus, the Office Action reasons, it would have been obvious to employ an oxide

including zirconium and at least one other metal in the composite structure of Boire. *See* Office Action, page 3. Applicants respectfully disagree.

In support of the above rationale, the Office action relies on paragraphs [0036] and [0051] of Anderson. The foregoing portions of Anderson, in fact, disclose that, from the perspective of optics, certain materials, including tantalum oxide and zirconium oxide, having a refractive index of from 1.9 to 2.2 are suitable. *See, e.g., Anderson*, paragraph [0036]. Also among the identified materials (and not indicated to be such in the Office Action), are silicon nitrides and aluminium nitrides. *See Anderson*, paragraphs [0036] and [0051].

Based on the foregoing indication of silicon nitrides and aluminium nitrides as suitable materials, one of ordinary skill in the art would not have replaced the oxide-based layers of Boire with a mixed oxide including zirconium oxide – to do so would require ignoring Anderson's indication of silicon nitrides and aluminium nitrides as suitable alternatives to zirconium oxide. As is well-settled, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *See* MPEP §2141.02 (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 220 USPQ 303 (Fed. Cir. 1983)). If any modification were to be made to the composite structure of Boire based on the teaching of Anderson at paragraphs [0036] and [0051] (which Applicants do not concede), one of ordinary skill in the art would have replaced the silicon nitride layers Boire with mixed oxide including zirconium oxide.

Boire does not disclose or suggest each and every feature of claims 1 and 21. One of ordinary skill in the art would not have modified the composite structures of Boire in view of the teachings of Anderson, as proposed in the Office Action.

As explained, claims 1 and 21 would not have been rendered obvious by Boire and Anderson. Claims 7, 8, 12-14, 16-20 and 23 depend variously from claims 1 and 21 and,

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thus, also would not have been rendered obvious by Boire and Anderson. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

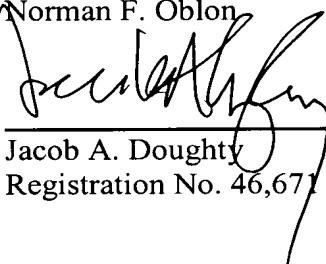
Conclusion

For the foregoing reasons, Applicants submit that claims 1, 7, 8, 12-14, 16-21 and 23 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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